THE AUSTRALIAN HOMEBUILT SAILPLANE

Editor: James Garay

Volume 5 Issue 19 **December 2000**

G'day folks,

Another year is coming to an end and this newsletter is jam packed with news, some bad and some good. The bad news is the tragic death of Joel Rebbechi in a hang glider accident. Joel is the son of our member Brian Rebbechi. I'd like to take this opportunity to express our deepest sympathies and sincere condolences to Brian and his family. From all of us involved in the production of this newsletter our thoughts are with you.

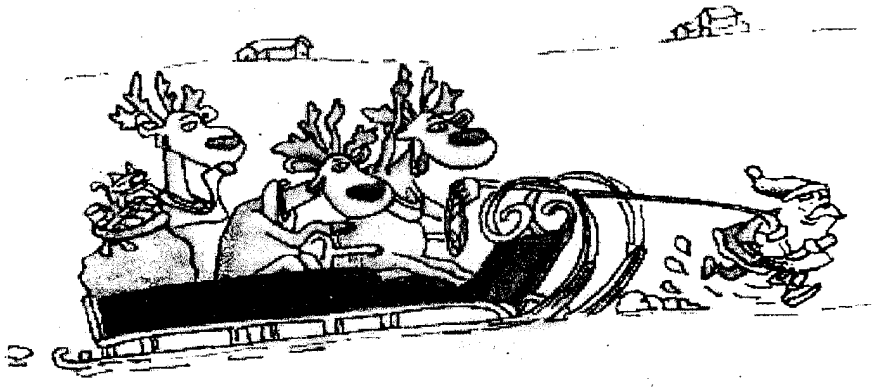
Boz Ilic from NSW sent me for you to read a very interesting article from the internet on Basic Ultralight Glider (BUG). If you are a computer nut linked to the internet you can find it at http://home.att/~m—sandlin/bug.htm. Thanks Boz for your information!.

Some more bad news - there was an accident that involved our cousin in USA. It happened to Mat Redsell and his Windrose, fortunately Mat bailed out safely but his Windrose crashed to the ground.

Your input with information for the newsletter is very welcome, we need more contributions for the sections titled *Hints and Tips*, *Technicalities* and practical workshop procedures. My folder is empty, so do it now!

A very fine two seat glider, home built, "The Zephyrus" is featured in this issue, it is still in service as a trainer with the Beaufort Gliding Club at Bacchus Marsh, Victoria. I have to express my thanks to Edwin Grech Cumbo and Christopher Thorpe for the information provided, I have flown the Zephyrus several times and it's a dream to fly, very gentle, docile and forgiving, that makes you enjoy a real flight. The designer Douglas Lyon is still an active member of the Beaufort Gliding Club.

Merry Christmas & Happy New Year!!



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Inside This Issue

MAIL BOX

Hi folks!
Just a quick introduction, my name is Simon Bleuler and I am a pilot from Sydney and am currently on my way to obtaining a commercial pilot license I also fly paragliders and sailplanes and am one of your newest members. I am proud to say after much looking around I have found the next project, which is to build the Carbon Dragon.
After about 15 years of model air craft building it seemed to be the most obvious step to take. I was actually planning to build from a kit, I had my eye on the TST –8 ALPIN D which is a twin self launching glider made in Europe but seeing our faithful dollar is breaking new records it seemed like a silly move.

I finally got in contact with our Editor Jim Garay and he pointed me in the direction of the Windrose and the Carbon Dragon, from here I spent many hours on the Internet finding out as much information as possible on the two air craft and found my decision was easily made, after reading many articles on the Windrose it sounded to me that the air craft had a tendency to spin, also it did not seem that the owners of the Windrose were raving about how good the plane was, on the other hand the articles on the Carbon Dragon were nothing but praise and having also had the opportunity to look at Graham Betts Carbon Dragon the choice was easy.

After receiving the Carbon Dragon's plans the next couple of weeks were spent looking over them and finding any faults that could be corrected and any improvements that could be made.

I am currently in contact with Alejandro Ramirez-Pineiro who had previously written an article about the evolution of the Carbon Dragon to the Manque, he has been most helpful with any queries that I have had.

I would like to thank James Garay and Graham Betts for all their help so far and will probably without a doubt be calling for their help in the future.

If anyone is thinking about building the Carbon Dragon do not hesitate to call me on (02) 94579403 for the information on the air craft I have collected as it may make your decision easier. Regards Simon Bleuler

Dear Ed,
I am writing for a couple of reasons:

1. To thank you for passing along the information on the Carbon Dragon by Alejandro Ramirez-Pineiro.

2. I imagine you are aware by now of the tragic accident to my son Joel on 8th October in Newcastle.

At this time we are just going ahead one day at the time, I hope in the longer term we will focus on the positive things but it is not easy at the moment. It is a great help to have the others, two children and my wife for mutual support.

Any way, what I am writing to say that I would like to stay in touch with the home-built sailplane group. My plans to progress the Carbon Dragon will slow down a bit, but my immediate plans there will be continue to clear out my workshop, and get into making up some test pieces.

In my current frame of mind I would not actually make any bits to be used in the aircraft, as I think you need 100% concentration for doing that.

I talked with Joel about the project on a few occasions, and he was quite interested and I think he would be disappointed if I did not continue!

However I want to proceed with it when I am thinking clearly. The last thing the flying community need is an aircraft built in a doubtful fashion.

So! I hope to be able to get along to the next gathering at Bacchus Marsh. I will probably be writing to Mike Burns with some questions on materials. Best regards. Brian Rebbechi.

Ed's Note: *Brian your letter touched me very deep in my soul and I can not deny a rolling tear drop from my eye (maybe due to my age I am getting sentimental and emotionally unstable) because as a father to my son Eddie who is also my best friend, I can understand your state of mind and sorrows.*

I would like to take this opportunity on behalf of the Australian Homebuilt Sailplane group to express our condolences to you and your family.

Dear Ed,
Enclosed you will find some information on the "Basic Ultralight Glider" which was designed by Mike Sandling from the USA. I thought it may be of some interest to you and it can maybe presented to others via the newsletter you are editing. The whole lot is retrievable from the Internet and I have highlighted the address on the first page. Besides, the complete set of plans is also available from the net free of charge and you may find them on the same address. Hope this will help a bit to continue our newsletter running. Yours sincerely Boz Ilic.

Eds Note: *See the complete information somewhere in this issue. Many thanks to Boz!.*

Dear Ed,
It would seem that I am no alone in seeking to find a self launcher to either build or purchase that has a L/D of something like 20:1.

I have spend some time rebuilding two ultralights and realise the enormous amount of time required to build from scratch. I am wondering if you have any knowledge of the kits available from Europe the "TEsT" and "SILENT" models.

I would also be pleased you could run an add in the classified magazine and thank you for a very interesting newsletter. John Thirwall.

Ed's Note: *Yes John, it is a pleasure! Have a look at the classifieds.*

Dear Ed,
Thanks for your information in regard to the Test Glider. I have spoken to John Everest previously and he tells me that he lost about $ 20.000 the previous year buying a kit from the UK. Apparently the firm went into liquidation and he lost all his money so I certainly hope he manages to get his new plane completed and flying without further trouble.

Its interesting how the price on motorised gliders shoots up by comparison to" two place" ultralights or GA version of similar size. I very much doubt if there is a two place motor glider for sale in Australia for less than $170.000.00 It is easy to see the finish detail work is very much increased on a glider however the basic frame and mechanical components must be similar.

The other alternative is to find a two place glider and see if it is possible to get a Reg Engineer drawing to install a motor. In most cases this would exceed the original weight and balance figures, however if one were to accept a lower performance criteria I cannot see why it should not be possible. Regards John Thirwall.

Eds Note: *The book that could interest you is in the classifieds somewhere in this issue. "FUNDAMENTALS OF SAILPLANE DESIGN"* by Fred Thomas and published by Judah Milgram

Dear Ed,
I called a day or two ago regarding joining The Australian Homebuilt Sailplane Group. I am particularly interested in self launching sailplanes. The "Windex" 1200 looks very nice, though I have not seen any thing else. Is there any body in Perth that is building or has a kit self launcher? Regards. M.Duffy.

Ed's Note: *You could contact an"AHS" ex member Gerry Fratel. 172 Kooyong Rd. Rivervale. WA. After hours &. week nights on PH.09 470 3226.*

Dear Ed,
Please find my subscription fee and my enrolment form.

Time ago I imported an "ICARUS" hang glider from USA. it caught fire while doping the wings so never finished.

Circa 1975 I bought a half finished all spruce "CHEROKEE" glider from Tamworth Gliding Club.

At my disposal where I work I have use of a "print machine" I can copy plans up to 850m/m wide by any length 1 metre to 20 metres what ever if you or any other member of the group have need of free printing?

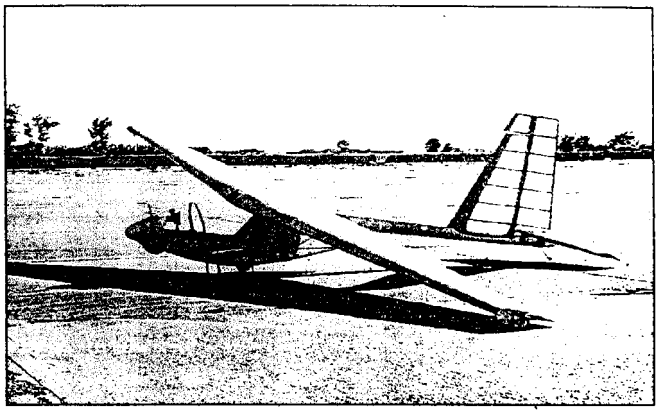
Send them to me, the machine can shrink or enlarge prints. Therefore if some one has a part small I can print full size. Good for ribs etc. Charles D. Gore.

Eds Note,
Charles D Gore is a new member to the group and his address is at the end of this newsletter.

TECHNICALITIES

MORE ON MICROLIFT TECHNIQUES

By Gary Osoba.
An excerpt from Sailplane Builder. With thanks.



Gary Osoba's Carbon Dragon ready for another day of soaring,

Many questions beg the attention of a pilot about to embark on a cross country adventure. He wonders "Is it too early to launch? Can I get away easily with this wind? How high will they go today? Did I bring enough water? The questions tug away at a pilot's mind as he readies everything for the flight.

However, the question which urges itself upon you so insistently, so frequently, is..."Will I have to land out unexpectedly?"

Yes, the landing. Where will it be? How will it go? Many across country flight has been abandoned, even in the planning stages, by concerns over an unknown landing, Many a cross country trek, beautifully flown, has been marred in its final moments by a landing that resulted in harm to the glider or pilot.

Obviously, anything which can reduce the risk of landing out will do much to enhance the frequency and enjoyment of cross country flight. Traditional soaring literature is replete with many fine suggestions in this regard. A wise pilot will not only carefully consider these, but will implement them.

However, among the advantages of a newly emerging group of soaring craft is their ability to significantly limit landing out in an unsafe manner.

Their design strengths, by nature, make premature landing rare. An they make the well timed landing an easy one. As such, the growing field of ultralight and entry level (or light) sailplanes will do much to encourage cross country soaring.

To illustrate the point, I can not remember the last time I worried about landing out when preparing to embark on a cross country flight in the prototype "Carbon Dragon"

In fact, after logging the first 100 hours of cross country time, there was not a single unplanned out landing.
I was well into the second 100 hours before the first and only one finally occurred. What happened then?

I was flying a quick 100 Km triangle in prefrontal conditions. Frontal passage was not predicted until some 8 to 12 hours after lunch. Nevertheless, things developed early and quickly. During the second leg of the triangle a very strong cross wind began to develop. Shortly thereafter, the sky, which had been spotted by small and infrequent cumulus, began to develop a threatening darkness to the west. I aborted the triangle, and turning into a strongly building headwind, sped toward the home gliderport.

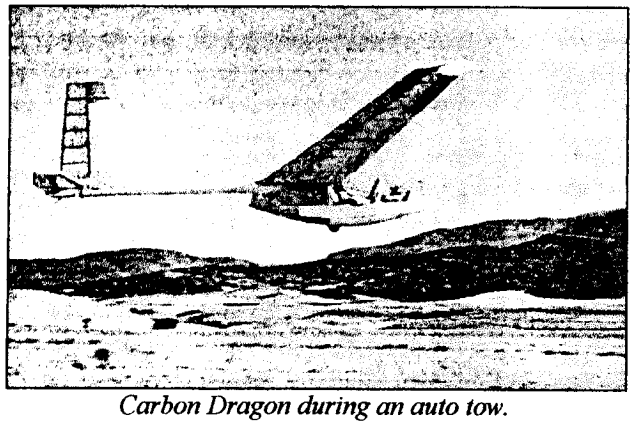
The darkness was approaching quickly, the wind kept building, and within a minute or two , overdevelopment turned the sun off like the flick of a light switch. The entire return course now being shaded. I landed out in a wheat field some 8 miles from the airport. Helped by my friend Bob Drennon, we quickly trailered the glider, snapped a picture of the massive cumulus mammatus behind it, and raced back to the hangar before the storm hit.

But let us get back to all the unplanned landings which could have occurred... and never did. Why is it that pilots in gliders like the Carbon Dragon will worry very little about this common soaring predicament?

To begin with, these gliders are designed to maximize soarability. Racing around with high speed efficiency, although respected, is not the top design priority. **They stay up when nothing else can.** They launch way early, sometimes hours before conventional sailplanes are soaring. And they land way late, after using every little bit of lift there is to find.

The result is dramatically longer average flight times. And consequently, a significantly reduced number of takeoffs, tows and landings per unit of soaring time.

When it does come time to return to earth, the number of suitable landing sites is much greater than that for the conventional sailplane. Not only can these gliders utilize **microlift,** but they can perform what we may term **microlandings.** The contributing factors are obvious . With landing speeds approaching some times one half that of a conventional sailplane, many sites which would otherwise be passed up are now usable. Combined with lower gross weights, the low speeds result in dramatically short roll outs. For example, on one flight I flew a little over 200 miles from southern Kansas up into Nebraska, then turned and flew back another 10 or 20 miles to land closer to my chase crew.



Carbon Dragon during an auto tow.

Setting up a landing near sundown, I selected the corner of a soy bean field with short crops and widely spaced rows. This put me right next to a paved highway with a farm road by the field. After landing (and attending to another duty or two which tend to develop on a 6 hours flight) I stepped off my landing roll at 21 feet... in negligible wind! Although the short roll out was not needed in this field, it will come in handy in others. In an emergency situation, consider the difference in inertial mass between a glider touching down at 20-25 knots with a gross weight of 300-500 lbs. And one weighing 800 or 1000 lbs. Which is landing at 40-50 knots... over unimproved terrain!

Also helpful are the shorter spans and good maneuverability possessed by these designs, allowing them to squeeze down into smaller fields surrounded by trees and other obstacles. And to use areas with somewhat undulating grades which are otherwise unlandable. Of course, the excellent soarability of this class of gliders can sometimes work against you. We took the Carbon Dragon with us on a trip to visit my wife's family in Wisconsin. I locate a site with a farm road about 20 minutes away where the owner allowed local hang glider pilots to conduct tow operations. I had brought my static tow system and was able to enjoy a nice flight after taking a tow from my wife Mary. When it came time to land, I had selected a small field several miles away which was bordered on the downwind side by a row of trees some 60 feet high. The plan was to fly 180' over the trees until descending to an altitude just above them, then turn final and drop into the field for a landing.

The problem was that the wind was blowing 10-15 knots and with the excellent sink rate of the glider, I was not descending at all through the lift formed by the line of trees. So, I just made passes for a while, soaring the "ridge", an then resorted to my spoiler in order to effect the planned landing.

Micropatterns also affect average flight times and the frequency of landings. How so? Well, consider the rationale behind a typical, 1000' landing pattern. It is interesting to note that only is this altitude applicable to conventional sailplanes, but many experienced hang glider pilots use it as well. The primary purpose of flying a pattern is to provide time for accurate perception... perception of current sink rate, perception of resultant glide, perception of field layout, any obstacles or other dangers, and other aircraft. A correctly flown pattern gains the pilot a grasp of perspective. Time is what is required. Even though a hang glider pilot typically flies his approach at half speed of a sailplane and can land in some incredible small areas, his sink rate is double that of a good sailplane. As such, the 1000' pattern is flown to provide the time necessary to size up all the variables.

The sailplane has a good sink of rate, but with the higher speeds, needs much more area to landing, In case, the time provided by 1000' pattern gives him the ability to fly a sufficiently large pattern, throughly scoping out his landing.

On the other hand, with gliders like the Carbon Dragon, 1000' patterns are just not necessary. A pilot entering the pattern at that altitude might as well set his alarm 5 minutes into the future and take a nap! With the sink rate of a high performance sailplane and the ability to land in areas nearly as small as a hang glider can, 500' is certainly adequate. I like to contrast it this way: Why enter a landing pattern at an altitude higher than I climbed away from at the beginning of the flight? Would the

pilot of a 15 meter racer think of entering a landing pattern at 3000' after a soaring flight initiated from 2000' aerotow? Hardly. Likewise, here is how it usually works for me. I take a 600' to 800' autotow by static line. If I contact lift above 200' during the tow, I release and fly away. If I take the full tow to 800' or so, it usually takes a few hundred feet to find
a small thermal and then begin the afternoon's trek in that fashion. During the flying season, I get away almost every time.

Entering a landing pattern at 1000' is therefore not only unnecessary, but... well, wasteful. I do not know any other way to state it simple. On one flight last summer which was about to end, I had committed from base leg and was turning final at somewhere between 150' and 175'. I generally won't try below 200', and please do not think I am recommending it to others, but in this instance I contacted smooth lift in light wind. So.. I did it. Another unwanted landing prevented. Another flight significantly prolonged. Keep in mind that the Carbon Dragon uses about 20'-25' of vertical altitude in a coordinate 360 degree turn, enjoys a full recovery in about the same and a spin recovery in about 60' to 70' (if you can entice into even enter one in the first place). It is really most genteel, without a dissonant note in it's entire repertoire.

So what kind of net effect can be expected from using 500' micropatterns instead of standard 1000 footer? The sum, in this case, is dramatically greater than the parts. Very dramatically so. It is not as if the extra500' on a day with 5000' thermal tops gives you 10% more time to contact another thermal.

Consequently, on the average, you will avoid 10% more air time. No, the dynamics of micrometeorology enter the find it starting to leak off for a slow climb rate to 700' to 900', waiting then at that altitude until it organizes and roars upward in a cycle. But it always seems to be there for me. When I first started doing this, a few local sailplane pilots expressed something akin to dismay over the practice.

But now, after witnessing the efficacy of the technique, they just shrug it off with the remark "He is doing the Osoba float again" and go on about their business. They know that the next time they look up, I will probably be specked out.

When barely sustaining and playing the waiting game, I have to be careful to fly as efficiently as possible and to utilize shallow bank angles. It would appear that the performance capabilities of the Carbon Dragon (circa 100 fpm minimum sink) in combination with the low speeds and small turning radii are just barely inside the parameters necessary to utilize leak-off microlift. Conversely, to circle too tightly introduces just enough degradation in sink rate to render the overall technique ineffective.

Of course once the bubble breaks away, the structure seems to concentrate into a smaller column and then tighter coring is definitely in order.

A variation along this theme occurs in higher winds. Instead of the bubble building in time over a singular location, the surface winds regularly detach the weak leak-off bubbles from their source and they begin drifting with the wind. Then another forms pretty soon over the original source, the wind tears it away, and on we go. What microlift technique can be utilized in this instance? Park yourself over the source, continuing to descend to the 500' level or lower if necessary, in the hopes that a big enough one will break free to send you back to the upper levels. If not, take to the next one that leaves and commit to drift with it. What happens in these conditions is that the weak lift may take you a few hundred feet higher, but no more. Stay with it. You have made your decision.

Sustain in the bubble, no over the ground source. Do not exit and try to find a stronger one. Not only is it unlikely that you will find a stronger one in a random search of these conditions, but you certainly do not have the altitude or time to explore for very long.

What happens in these situations is that the bubble you are with will eventually contact an other good ground source, combine with it is heated potential, and nearly always provide you the energy to go back to the upper levels. In this instance, you will find yourself working what we may refer to as cumulative thermals. It can actually be quite predictable... drifting along, barely sustaining over green fields and spotting a big plowed one coming up in about a mile or so. Sure enough, when you get there, it all come together and you are gone!

Without a doubt, there is usable lift to be found down here, in close proximity to the earth. Capturing it's potential requires a combination of the right equipment and the right techniques. Of course, nothing presented herein should be construed as a contradiction of the old soaring adage "Get high and stay high!". Something which is accomplished with ease in gliders like the Carbon Dragon. For example at time of this writing, my most recent flight in weak spring conditions lasted seven hours. The thermals only averaged about two knots. Even so, other than using microlift techniques to climb away from the 66' auto tow, I spent the entire flight within 1500' at the4500' cloud base. But when everything else has failed you, and you haven't yet resigned yourself to landing, nap-of the earth microlift may prove to be your answer.

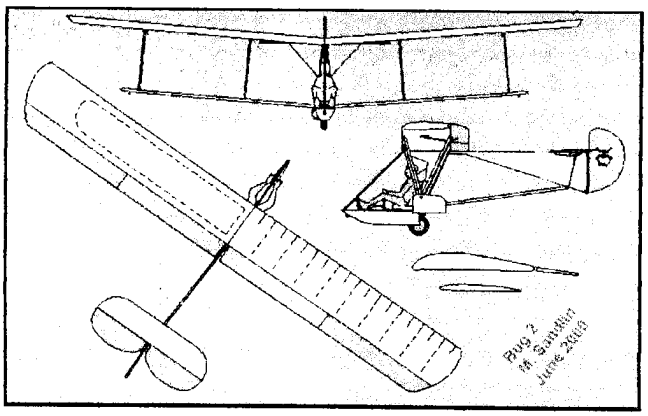
Hopefully there is something here which will prove useful to you whether you fly a hang glider, a standard class sailplane, or a Nimbus 4. And, I hope it gives impute to those interested in exploring the emerging field of ultralight and light sailplanes.

Whether it is the excellent soarability, the increased number of usable landing fields, the efficiency of micropatterns, or the reliability of a nap-of-the -earth save, this class has much to offer. In case you have not already guessed it, I am thoroughly enjoying myself in it!

Merry Christmas & Happy New Year!!

From all of us involved in the production of this newsletter.

WHAT'S NEW?



The Bug-2

(Basic Ultralight Glider)

By Mike Sandlin.

The Basic Ultralight Glider (BUG) is an ultralight sailplane intended for open soaring, convenient use, and easy to repair. Its folding biplane structure gives it a big , strong wing that comes in a small light package, allowing for quick and convenient transport and assembly by one person.

Flying with about the same weight and wing area as a hang glider(remember to include the harness as part of the weight of a hang glider), its conventional center stick and rudder controls could make it suitable as a trainer for hang glider and paraglider pilots who want to fly ultralight sailplanes.

Launch can be made from open hill sides or by towing behind ground vehicles or ultralight tugs.

The BUG is not a hang glider (it has no foot launch capability) nor is it an ultralight airplane(it has no engine). Its construction is "low tech" at the hand drill and hacksaw level, for easy home building, from readily available materials (it is made mostly from aluminium tubing and steel cables with polyester fabric covering). It's glide performance has not been measured but seems comparable to a single surface hang glider.

Design Concepts

The BUG design pursues the following goals:

1. **Open air soaring**

The pilot sits in an open chair, wearing a seat belt. The only performance goal is that the glider be soarable with the pilot completely in the open, a new version of the "open pilot class".

2. **Crash Safety**

Crashes happen, so let's break tubes, not pilots. The BUG pilot is belted in place and protected on impact by deep crumple zones, in a light structure that flies at low speeds. A big bouncy pneumatic tire is part of the sacrificial structure, and there are no large masses behind the pilot. A hand thrown emergency parachute is installed, but an air rocket deployment system could be used.

3. **Easy towing**

The single point tow hookup is simple and the pilot always has one hand available just to pull the release. As compared to hang glider tows, no takeoff dolly is needed, and lock-outs or tumbles should be unlikely with the cruciform wing/tail layout. The towhook is designed to release automatically when pulled rearward (the sailplane standard).

4. **Garage Level Technology Construction and repair**

The BUG can be built or repaired with hand tools on a garage floor using materials and processes that are conventional and easily obtainable. The main structure is aluminium tubing bolted together in traditional hang glider/ultralight fashion. The fabric covering is light aircraft polyester, glued onto the airframe, shrunk taut with an electric iron, and then sealed with untainted Polybrush (Polyfiber process). There is no welding and there are no machined pats. Much secondary structure is made from hobby shop wood but could just as well be metal or simple composite. The control lines are made of 7/64 inch "Spectron 12" braided line routed through marine pulleys and plastic fairleads.

5. **Convenient transport and assembly**

The BUG-2 is a truck-top glider made for quick assembly and disassembly by one person. Transport requires an ordinary flat and padded hang glider rack, with no special saddles or additional padding, exactly the same setup I use to carry hang gliders. On my truck, I can carry the BUG with room left over for an additional hang glider or two, with the nose assembly stowed in the back bed.

The assembly involves handling five main parts, none of which weighs more than 34 pounds (that is the weight of a folding wing half). The main structure is the wing, which is assembled first from the two half wing assemblies. The structures forward and aft of the wing are folding tube assemblies which are pinned onto the wing(there is no continuous fuselage structure). The fifth part is the folding horizontal tailplane, which is put on last. With continuing attention and design effort I hope this process can become quite fast And easy.

Ideally, all fasteners should be physically attached to the glider, so we can't walk away with parts in our pockets. The fasteners will be quick, using no wing nuts and a minimum of safety pins.

6. **Traditional stick and rudder controls**

The objective is to have conventional, sturdy controls with "good control feel", which is difficult to define. The main control stick is in the center and operates conventional ailerons and elevator, and the rudder is foot pedal operated.

7. **Aesthetic appeal**

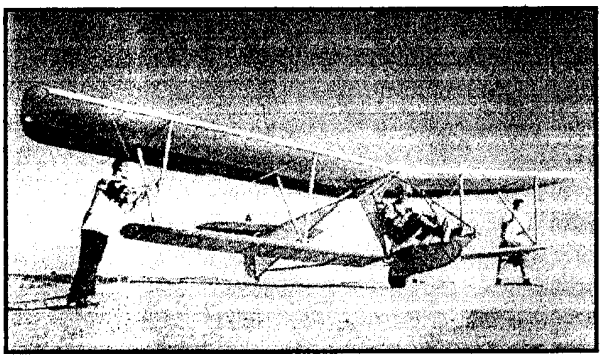
BUG-2 styling leans toward cuteness and early biplane nostalgia.

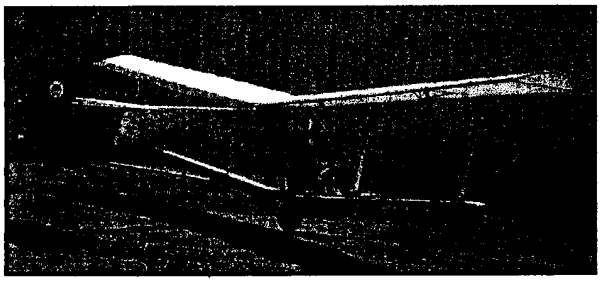
8. **Docile flying qualities**

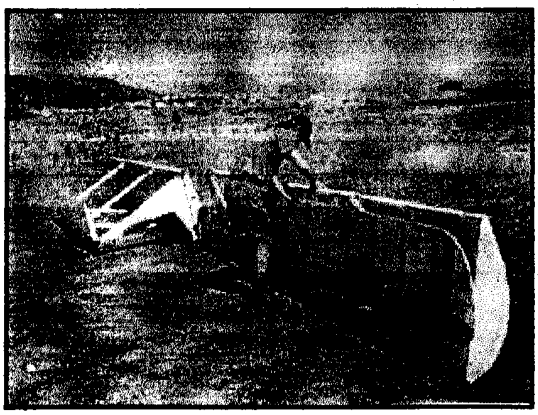
Many aerodynamic aspects of the BUG are intended to provide forgiving low speed characteristics with mild stalls and spin entries (or maybe even an absence of stall breaks or spins). These design points include a light wing loading, generous main wing washout, ailerons that taper to nothing before reaching the wing tip, an untapered main wing platform, and a biplane wing.(Presumably, a biplane should have a docile stall break, since when one wing of a biplane stalls, the other is still flying, thus limiting the stall effect to one wing).

9. **Static margin check**

The main landing wheel has been placed at the aircraft center of lift, so for a new pilot or a new seating arrangement, the pilot can be sure of having enough forward weight by doing a simple static balance test. With the glider leveled, elevator neutral, and the pilot in flying position, the nose must be seen to drop firmly to the ground, thus confirming adequate static margin. If the nose does not drop to the ground, the glider is too tail heavy and corrective measures must be taken before flight (to prevent flat spins, basically). This "nose dragger" balance also makes landing rolls more directionally stable than they would be for a "tail dragger".







HINTS & TIPS

MAKING A NEW CABLE

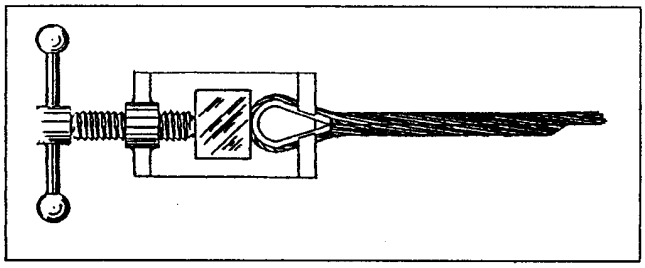
The most important part of making and installing new cable is to ensure that the length of the cable is correct. Incorrect cable lengths can cause uneven rudder pedals and loss of full control movement. Most FRP gliders which use cables in the rudder system have no turnbuckles to adjust out the slight inaccuracies of cable construction and so special care must be taken to ensure correct cable length,

If an old cable is being copied it is important to check the operation of the control in all positions prior to beginning. Available turnbuckle adjustment should also be checked.

Cables stretch when loaded for the first time as the cables bed in. It is therefore advisable that the cables be preloaded to 50% of their breaking load prior to being fabricated into cable assemblies.

When stretching the cables special care must be taken by placing a guard over the cable to prevent injury in the event of a cable break.

If it is not possible to manufacture the cable and then install it in the glider then the cable must be made up in situ. One end of the cable (the end which is most difficult to access in the glider) should be made up and the cable then fitted to the glider. The length of the cable should be adjusted and the second end swaged. Construction of the cable may be made easier by the use of a splicing clamp as shown below.



SHOP TALK

The JG-1 An Australian contemporary design glider

By Peter Champness

An advertisement in Australian Gliding (April 2000) caught my attention and after some prevarication I rang the author for more information. John Gross was more than happy to talk about his project. As a result of this conversation I visited John on a recent trip to Queensland. John has a large shed at the end of a remote road at the southern fringe of Brisbane, near the shores of Moreton Bay. Within were two of his recent projects; a 35 ft cruising catamaran yacht (which I think he is building for a client) and the JG2. The JG2 is a two-person semi-scale jet aircraft modeled after the Gruman Panther. The JG2 is well

advanced. The engine is a modified US Navy helicopter turbine, acquired though disposals. The fuselage is constructed of fiberglass, with which John is obviously experienced. The aircraft is being designed and constructed to the experimental category rules. John hopes that he will avoid the delays experienced with his first project, which was delayed for many years by paper warfare.

The JG1 is a 15 metre glider of wooden construction with heavy ply skins. The fuselage is made from a single ply wrap with the longerons glued to the ply before it was rolled into an egg profile with a pointed ridge along the top edge. Forward of the wing the top section is cut away for the canopy, which allows the sides to be drawn together at the nose section. John describes the JG1 as looking a bit like the standard Jantar, which is true enough but the construction apparently was influenced by an American homebuilt design, the BG1. The tailplane is permanently fixed to the top of the fin, and has a comparatively thick symmetrical section. It also appears quite narrow but is probably about 7 ½ ft wide. The wing is of 3 piece construction. The center section is 8 feet wide and is permanently attached to the fuselage. In this respect the design is similar to the Duster. Another feature shared with the Duster is the trailing edge airbrakes which rotate trailing edge up when deployed. This arrangement raises the stalling speed when the airbrakes are deployed, but only by 2 knots. The advantage is that the airbrakes can be closed with out loss of lift.

The outer wing panels attach by bolts though the upper and lower spar fittings and the leading edge fitting. This arrangement looked a bit awkward to me but John says 2 people can rig the glider in 20 minutes, which compares favorably with other designs. I did not see the glider rigged. There might be some wing stands, or other fixtures, otherwise I would expect that at least three people would be required.

The glider has an open trailer. The 8 ft width of the center section is the maximum allowed on Australian roads. Hence an enclosed trailer cannot be used. An allowance of only 2 inches on either side for the width of an enclosed trailer and clearance to fit the glider in would put the trailer over the limit.

I tried out the cockpit for size. The cockpit is moderately narrow but quite comfortable for someone of my size (just over 6 ft), once one squeezes in. The canopy is a two-piece design with a rather narrow opening. The front canopy is fixed. The back section is lifted and placed over the pilot after entry, like the Libelle canopy. The only difficulty was operating the airbrakes. The airbrake handle is on the left side but it is easier to operate with the right hand, due to limited elbow room. John adapted the control system from a Schneider Arrow. A clever arrangement of the pushrods deflects both ailerons upward when the stick is pulled back thereby increasing the washout at high angles of attack.

The glider was competed in 1977 which makes it a contemporary with Gary Sunderland's MOBA. The estimated performance of 34:1 is similar to the best of the wooden gliders (Ka6, Boomerang, Foka). The wing loading was considered to be quite high at the time at 7.5lb/sq ft but probably seems average these days. There is no provision for water ballast, but who needs it when the glider is heavy anyway. The stall speed is 41-42 knots. Unfortunately the glider was not flown for 13 years after completion as it lacked a permit to fly! John blames his own lack of enthusiasm for paper work. He maintains that he has a very efficient system for paper work, i.e. he lets it mature until it either; blows away, becomes redundant or is joined by follow up correspondence. Unfortunately for him the DCA and the GFA at that time used the same system. Happily Mike Burns became the GFA CTO and took an interest and the project was brought to completion. The glider is said to easy to fly with standard control characteristics.
John now has the glider for sale and is asking $6000 complete with trailer and vinyl covers. The glider has only flown 30 hours and the flight test program is not yet completed. I think the spin tests at the rear C of G position are still to be done.

I am quite in awe of anyone who can even contemplate the task of first designing, then constructing their own glider, but John is obviously a very practical person, with a good deal is construction experience.

Specifications

Span	15m
Length	6.4m
Wing Area	10.98sqm
Aspect Ratio	20.66
Wing Section	FX61-184
	FX60-126
Gross Weight	400kg (882lb)
Empty Weight	290kg (640lb)
Max pilot weight	110kg (242lb)
Min pilot weight	58kg (127lb)
Stall speed	41kt
Max speed	103kt
Wing loading (max)	7.52lb/sq ft
G loading	+/- 7.5g

MY DREAM

By Bruce H, Carmichael

(An excerpt from Sailplane Builder July-August 2000)

I would like to describe my dream recreational soaring machine of the near future. Perhaps it will require a decades development. But I would hope it might appear in five years.

Assembled from a kit purchased from $ 5000 (1983 dollars) it would include a self launch system. An additional $ 500 purchase a kit for an enclosed trailer which would fit in a one stall garage.

Sailplane and trailer assembly would be completed in half of ones evenings and weekends over a one year period.

One person would be able to withdraw the sailplane from the trailer and assemble it in 15 minutes. The silent, vibration less launch system would provide takeoff from 500 foot roads or turn and place you 2000 feet above ground level within 10

minutes. A flick of a switch would kill the power and placement of a lever in a closed detent would essentially eliminate propeller drag.

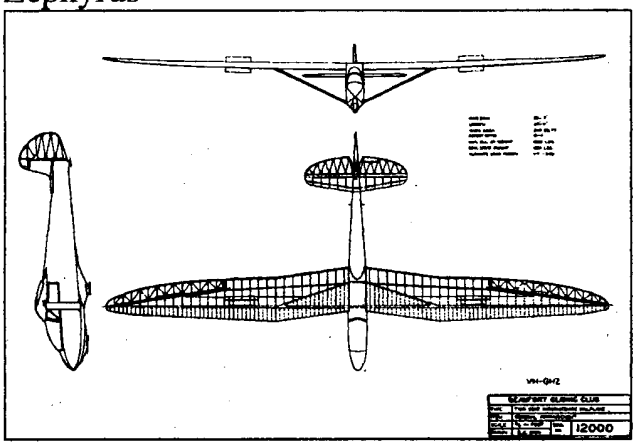
One would now be soaring in a sailplane with a minimum sinking speed no greater than 2.5 fps and at low enough speeds to work small diameter thermals. An extent of laminar flow equivalent to the best racing sailplanes would be obtained through light,smooth, stiff,wave-free sandwich construction skins formed at the factory in accurate female molds.
Flight would be incredible silent and the view similar to that from a helicopter bubble. Penetration would be reasonable good thanks to the very low drag in spite of the moderate wing loading.

The thermal weakens. Moving the lever to the open détente exposes the propeller. Another switch brings one right up to power without any dangerous high drag condition multiple start attempts. One purrs along with only a murmur from the low speed, large diameter, resilent,silenced propeller in search of new lift.

Safety would be enhanced through incorporation of all that has been learned about handling characteristics and light weight energy absorbing crash protection. At day's end, one returns to the take off point, moves the lever to the descent détente, engaging a powerful glide path control, lands, disassembles, rolls the components into the trailer single handedly, and tows it home to the garage.

With the exception of the silent vibration less propulsion system, many of the elements of this dream are already available in more expensive versions or less convenient versions or ultralights with very high drag and exposed pilot position.

Beaufort Gliding Club. The home of the Zephyrus



The Beaufort Gliding Club was formed in 1942 by staff of the Department of Aircraft Production (Now ASTA), Beaufort Division at Fisherman's Bend, Melbourne. This Division built Beaufort Bombers on licence from England and it is from this that the Club derives its name.

The Club started around designing and building gliders and, in 1951 embarked on ambitious project to build a high performance two-seat glider. Superior to any glider of its time, it took 15 years to construct due to declining membership in the fifties and first flew in 1966. This glider is the Zephyrus and it is the mainstay of the Club's present fleet.

Location

Originally the Club operated from Berwick aerodrome but in 1963 it moved to its present site at Bacchus Marsh, some fifty kilometres west of Melbourne.

ZEPHYRUS - 25 years to take to the air.

Information provided by Mr. Edwing G.Cumbo.

Herald News paper 10th November 1967...
A strange glider has made its first flight at Bacchus Marsh- Just 25 years after work began on its design.

Known as the Zephyrus, the glider will be officially christened by the Governor General, Lord Casey, at his Berwick airfield early next year.

The Zephyrus, weighing more than a half a ton and by far the biggest glider in Australia, is flown regularly by members of the Beaufort Gliding Club at Bacchus Marsh aerodrome.

It began in 1942 as the idea of two Government Aircraft Factory workmen-draftsman and technical officer- when they were working on Beaufort bombers at Fishermen's Bend.

The draftsman Len Travers, decided to build an all Australian two seat glider and with RAAF technical officer Sq.Ldr.Doug Henderson formed the Beaufort Gliding Club as a basis for the plan.

In an initial burst of enthusiasm, the club and its plans increased in size until construction was ready to begin a year later. Then membership dwindled until, to keep the club and the project going, membership was accepted from outside the Government Aircraft Factory.

Two men who took this opportunity to join Beaufort were engineer **Doug Lyon,** of Blackburn Rd, Syndal, and company manager **John Wallis**, of King St. Deepdene.

" We felt the club's plan to build an Australian glider was good so we joined them and started work", Mr. Wallis said.

A considerable re-constructed two-seat glider (PHOENIX) was built and flew for the first time in 1946" It was extensively operated until early 1951 when it was written of in a fatal crash at Berwick. There was nothing we could do but go back to the drawing board and start from scratch."

There were no suitable commercially-built gliders available in Australia, so the few remaining Beaufort Club members, which by then had no Government Aircraft Factory members, began designing a new aircraft.

The new delay led to a further dwindling of members and within three years the project came almost to a standstill.

But several members led by Mr. Lyon and Mr. Wallis, persevered. They made parts for the glider in their home workshops at night and assembled them at week-ends at Lord Casey's Berwick property

At last, several months ago the glider was taken to Bacchus Marsh for its first flight. The Berwick airstrip was too short for such an important venture.
" It flew beautifully" Mr. Lyon said. " It is very maneuverable for its size and it can soar with the best of them"

The Zephyrus, which cost about $ 1000 in materials, is built around a welded tube steel fuselage covered with fabric. It has a 27-ft. Wing of wooden spars and plywood covering.

It will not be ready to enter this year's national gliding championship at Benalla on Boxing Day. But Mr. Wallis hopes to enter it in the two-seat competitions next year.

300 km in Zephyrus *By Cris Thorpe*

Editor's note about the author.

Christopher Thorpe is a member of the Beaufort Gliding Club and has flown over 2,100 flights for more than 1,600 hours in 28 types of sailplane.

During his 20 years gliding, he has served various operational and training capacities including that of Chief Flying Instructor- a position he has held for the past 6 years.

He has over 1,000 flights for 600 hours in Zephyrus and met all his badge requirements up to Diamond Goal in that aircraft.

Together with fellow club member Noel Vagg, he has flown Zephyrus in several National Sports and two seater competitions, placing 2nd in 1986 and 1st in 1988.

Christopher is a sincere, trusty and easy going family man and I have very much respect for him for his capacity and deference.

It had been the subject of much discussion within the Club as to who would be the first Pilot to fly Zephyrus around a 300km triangle. Although no stranger to cross-country flying, the longest flight in Zephyrus to date was around 250 km. The 300-km goal remained elusive.

On the 3rd January 1983, during the Club's Christmas camp at Corowa NSW, Doug Lyon and Kevin Cosgriff flew the 'beast' on a 302km flight, taking 5 hours 23 minutes. It was considered appropriate that the aircraft's designer, Doug Lyon, should complete the first 300-km flight. However, amid the congratulations, some members were planning to better this result. Unfortunately the Club camp finished shortly after and further opportunities appeared gone until next season.

Three weeks later, on the 22nd January, Peter Koiker (Geelong GC) and myself arrived early at Corowa. We were to act as 'crew' for Noel Vagg who was competing in the VSA State Championships flying Cirrus GOX in standard class. The Zephyrus had been left at Corowa following the Club camp due to a lack of towing vehicles. Peter would take the aircraft back to Melbourne at the end of this weekend.

The weather for this, the first day of the championship, was predicted to be excellent. Being the first day, the competition task setters were unable to set very long tasks, as the morning would be taken up with the normal organisational planning. In view of the late start, tasks were scaled to make maximum use of the available conditions that saw standard class set a task of 328 km: Corowa to Coolamon to Urana and back to Corowa. Armed with this news, Peter Koiker and I decided to take Zephyrus around with standard class. Leaving our competition Pilot to his own devices, we hastily rigged Zephyrus, cleaned her and organised an aerotow for just prior to the launch of the competition field. Grabbing the 'Melways' to navigate with, we dragged the Zephyrus to the intersection of the taxiway and the northwest runway in preparation for take-off.

After a very long ground run, the Decathlon tug finally became airborne as we rapidly approached the end fence, which we cleared by only 50 feet. We released at 1,500 feet after a slow climb, pulling up into a four-knot thermal. Topping out at 5000 feet we headed north.

It was an uneventful first leg in which we covered the 151 kms in 90 minutes. Upon turning Coolamon at 9,000 ft we believed that our dream run was going to continue. Unfortunately this was not the way it turned out. Our second leg was into a stiff headwind and we were soon down at 3,000 ft looking for thermals. On our descent to this level we had not encountered any sign of thermal activity and we felt that our luck had run out. This was not the case and very soon numerous small dust devils appeared in front of us. Slowly we began to make progress, comfortably working from 8,000 ft down to 4,000 ft. Although able to maintain height, the headwind was taking its toll on our forward progress. We had only covered a further 50 kms after nearly two hours of rounding the first turnpoint. It was decided at this stage to shorten our task and head home. Since we were nearing Lockhart and slightly north of track, we elected to use Lockhart as our final turn point before heading home.

No sooner had we crossed south of the Murrumbidgee River we ran into very strong lift in excess of 10 knots. Topping out at 13,000 ft we set final glide for Corowa and cruised home at 55 knots, taking an unnecessary thermal at Oiltree Lagoon. The flight had taken 5 hours 30 minutes covering 307 kms, only 21

kms shorter than the standard class task.

At the end of the State Championships Noel Vagg and I trailered the Zephyrus to Horsham. Peter Plunkett of the Corowa Club trailered the Cirrus GOX to Horsham as it was in this aircraft that Noel intended to compete at the Horsham week competition. It was intended that I 'crew' for Noel, however, after much persuasion, Noel convinced me to enter Zephyrus in Sports Class. Horsham Week 1983 was to be my first competition.

Monday, 7th February dawned fine and warm with the promise of being an excellent soaring day. Briefing would be held at 10:45 so the early morning was spent cleaning and inspecting the glider. Later at briefing the tasks were announced - over 600 km for open/racing class, 537 km for standard class and 305 km for sports class. The sports class task looked daunting - north to Roseberry silo, south-east to Stawell aerodrome and back to Horsham. The 'Met' man (weather guesser!) explained the 'temp trace' and advised that we would probably attain 5,000 ft by 2 o'clock and reach 10,000 ft around 4 o'clock. The first leg of the trip was to be into a 10 knot wind at and below 5,000 ft swinging to a 15 knot crosswind above this which should assist as a tailwind on the second leg. Last minute details were attended to, then off to the launch grid. Keith Nolan was flying his Olympia and gave me his final glide calculations and some words of encouragement: - "stay above 5,000 ft".

One interesting peculiarity about competition flying is the confidence fellow competitors instil in others. However, when they realise I'm flying GHZ, I fail to see how their laughter and references to Zephyrus as "a flying block of flats" or "plywood overcast" helps.

Sports class was placed at the back of the launch grid and is last in the air. By 1:30 I had released into a good thermal and began climbing to 5,000 ft. Half an hour later I decided to make my run through the start gate. I joined the start area at 3,800 feet and commenced my run, planning to cross the start line at the prescribed 3,200 ft. Unfortunately I had underestimated the strength of the headwind and finally crossed at 2,500 ft in a 5 knot sink street. Not wishing to outland just outside the airfield perimeter at this stage, I turned back towards the field in search of some of those thermals I had found earlier whilst stooging around. At 1,200 ft I connected with a 3-knot thermal. Back at 5,000 ft I decided to forget about taking a restart and headed off on track.

Ten minutes later, I was abreast Pimpinio with Keith Nolan thermalling slightly higher in front of me. Together we climbed to 5,000 ft and then headed off on track. We were flying together for half an hour when I got slightly low. At 2,000 ft west of Warracknabeal I hooked into a weak thermal and after 15 minutes had scratched up to 6,000 ft. By this time Keith had long disappeared. I wasn't to see another Glider for the duration of the flight.

The last half of the first leg was spent working from 6,000 ft down to 3,000 ft with the result that I reached t he first turning point after being on task for two hours thirty minutes.

Although the second leg was supposed to be the easiest, it wasn't. The lift was strong, around 7 knots, but the thermals were further apart and thermal hunting was made difficult by the absence of cloud. It was a case of zigzagging across the countryside in search of dark paddocks.

At approximately 6 o'clock the day seemed to come alive and whilst still some 50 kms out from the second turnpoint I attained 10,000 ft. It was at this stage that fatigue began to set in. I had been airborne for four and one-half hours and was only just west of Murtoa still to round the second turn. I had been contemplating turning for home when the aircraft suddenly stalled, waking me up in the process. This made me more alert and I pushed on towards Stawell aerodrome. At 7 o'clock I had reached this goal and taken the turnpoint photograph.

Lift had by now died and it appeared that I was committed to a landing at Stawell aerodrome. Although I had turned the turnpoint at 6,000 ft, I had little hope of finding the next thermal. I began a search keeping within reach of the Stawell aerodrome in case I had to land. I was down to 4,500ft over the centre of Stawell township seeking 'hot spots' when I encountered a 7-knot thermal. By 7:30 I was sitting at 12,000 ft above Stawell, the only glider still flying; all the other competitors were either home or in paddocks.

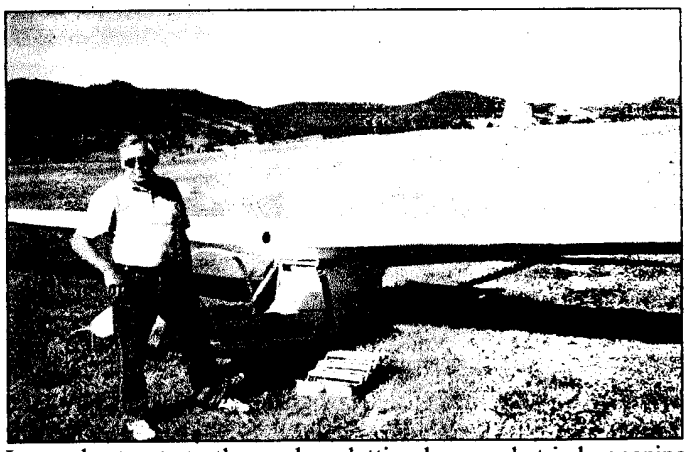
Making some rough calculations I reckoned that this was sufficient height to final glide the last 70 kms home. A haze hung in the now still air making it impossible to see the airfield until I was down to 3,000 feet only five or so kilometres out.

Increasing the speed to VNE (104 knots), I finally crossed the finish line at 8 o'clock, still high at 1,000 ft. The noise however, could still be discerned on the ground disturbing the finish line crew who were by now at the hanger downing stubbies.

The first solo 300-km flight in Zephyrus had taken six hours on task and earned a Gold 'C' and diamond goal. I was subsequently awarded the VSA's David Hooper Trophy for the best flight for a Victorian flown within two years of going solo.

MY CARBON DRAGON

By Graham Betts



Just a short note to the readers letting know what is happening with my Carbon Dragon. First of all I would like to thank the AHS members for a really great time at the Bacchus Marsh last Symposium over the June Queens Birthday weekend., where I towed my C.D. from Sydney, surprisingly the trip only took about 10 hours of actual driving. The Hume Hwy is very good.

Arriving at Bacchus Marsh aeroclub on Friday night I was made most welcome by some of the members present.

After showing me the kitchen and bathroom I found a room and bedded down for the night. Boy it sure is a cold part of the world at that time of the year!

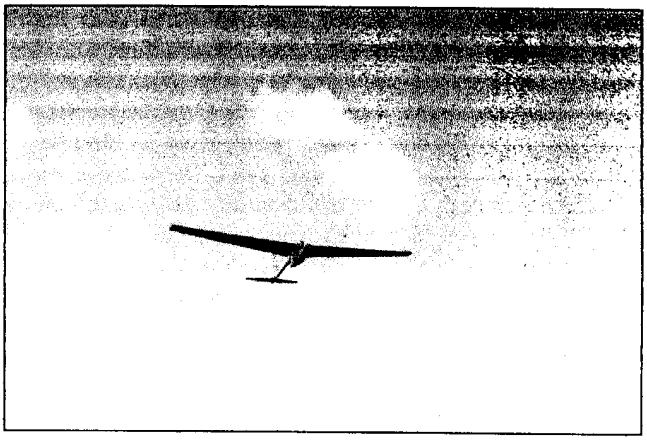
Saturday morning was spent meeting members of the AHS and other visitors. The morning included a very good demonstration of fabric application by Dave Darbyshire. I found this extremely beneficial as my Carbon Dragon had not been properly finished off that is tidying around the edges and general trim. I used a cloths iron to tighten the fabric over the ribs but was unaware how useful the iron was in making the cloth bend and stretch around the frame. Thanks Dave!

In the afternoon I assembled the glider where it was joined by a WOODSTOCK and a MONERAI. Sunday saw more lectures and informative talks. Monday morning I spoke on the building and flying of the Carbon Dragon and answered questions from the floor. Some of the more experienced members were very interested in the aircraft hardware and gave informed opinions on things like hinges (made from carbon fibre) to the thickness of the control cables 1/16" and pulleys sizes. I think some of them found it hard to accept the lightness of the hardware bearing in mind they were comparing a 70 Kg glider to probably a 300 Kg high performance ship. The structure of the Carbon Dragon is basically a rag and wood structure with judicial use of carbon fibre and kevlar.
After lunch a photo shoot was arranged showing the Jim Maupin designed gliders The Carbon Dragon, Woodstock and motor glider Windrose.

After watching the Windrose fly you could see quite clearly where the Carbon Dragon lineage came from. A car tow using 2000 feet of rope was arranged as this was my first auto tow I was a little apprehensive at first but after a 30mts roll she rose gently into the air the ground dropping away quite quickly. It felt so smooth not having to fight a slipstream. Unfortunately at about 270 feet the aircraft back release, I do nor know why it could be, the climb was to steep, the release is designed to let go at certain angle so as not to apply to much down load to the wings. As the air was calm with no bumps all I had to do was sit back relax and enjoy the slow decent back to the runway.

After staying over night at the club I left the club at 6 AM and started my journey back to Sydney. Also in an endeavor to make the Carbon Dragon fly better I have begun a weight loss program which should see my weight come down from 92 Kg. to 80 Kg. at present I have 2 KG. to go. The good news is the stall speed should drop quite a bit resulting in a lower thermalling speed with a smaller turning radius something close to a hang glider that should be fun.

In closing, I would like to thank the organizers James Garay, Peter Raphael and Malcolm Bennett for a most enjoyable time, and some time in the future I will return perhaps when there are more Carbon Dragons in the air.



MORE ABOUT THE WINDANCER
(An excerpt from Sailplane Builder)

The man behind the design is Daniel Armstrong, with a aerospace engineering degree from Northrop University, worked with the late great Jim Maupin on two sailplanes, and flies everything from hang gliders to high performance sailplanes.

Dan and his stunning wife Janice (Sailplane Builder's Editor) constitute the strongest participants in the SHA. He is a member to the prestigious OSTIV International Sailplane Design Panel. He gave details of the philosophy leading to his new design, the WinDancer.

It will be a plans only offering and will be suitable for bungee, auto, pay out winch, light tow plane and standard tow plane launch. It will accommodate 121 to 242 pound pilots. At a design empty weight of 150 pounds and a 242 pounds payload, the wing loading is about 3.5 psf and span squared loading is o.245. Gust loading is more critical than maneuver loads.

Span is 40 feet, area is 112.3 square feet, and the aspect ratio is 14.The constant chord wing is swept forward 3,4 degrees. He uses a flapped Eppler 656 airfoil. At 28 mph, the sink will be 125 fpm at 70 foot turn radius.

A VERY LONG OUT AND RETURN
by Alan Patching

John Ashford and myself have returned after taking the 'Golden Eagle' to the IVSM 2000 at Harris Hill near Elmira, New York, and OSHKOSH. The glider is now sitting in a container at Long Beach waiting for a ship to bring it back to Australia.
The trip across the USA was made possible through the help we received from Janice Armstrong, Editor of Sailplane Builder, who collected us on arrival in Los Angeles and looked after us while preparing for our cross country trip, and again on our

return. She also convinced Jeff Byard, President of the Vintage Glider Association, that he should let us use his old Ford F-150 truck to tow the trailer. He had just bought a new truck and was keeping this one for use on the airfield at Tehachapi. After replacing the alternator, battery and ignition switch mechanism early in the 7000 mile journey it gave us no more trouble. Our journey took us across endless miles of desert and on the return through the Rocky Mountains which John wanted to see. We were very lucky with the weather managing to skirt thunderstorms and only once having to stop and let a tornado get ahead of us. At Moriarty we stayed with George Appleby, designer and builder of the Zuni, and took the opportunity to grease the wheel bearings on the trailer since they are also vintage bearings and were done twice more during the trip.

IVSM 2000 was a great gathering of pilots and gliders as there are many European vintage gliders now in America. Unfortunately the Eagle was not the oldest there, that honour going to a restored Franklin which first flew in 1936. A Bergfalke came from Sweden but had been sold to a new owner in the USA. However there were many glider pilots from overseas. Chris Wills, President of the Vintage Glider Club came to open and close the event accompanied by the past and present VGC Secretaries from England. There were also pilots from Sweden, Germany, Japan and the USA. Many of us stayed in the same motel at the bottom of Harris Hill and met for breakfast in the lobby before joining the others at the top.

Each morning started with presentations for the longest flight and highest altitude for the previous day, followed by a briefing on operations. Harris Hill is a Club operation from a single strip having a sealed pad for take offs. These were always in the same direction towards the edge of the hill with landings in the opposite direction unless the wind was 10 knots. There were about 20 visiting gliders and these along with the club and private owners often led to a congested airfield. However the only problems were with visiting aircraft who found the strip a little short. During our check flights we were shown an emergency field at the bottom of the hill for those who tried to land too long or had a launch failure. Both Martin Simons and Bob Wyatt had their first flights in the Eagle and Martin made the longest flight staying airborne for just on two hours. Thermals were always bubbles and with the wind it was difficult to stay up, in fact the daily prizes always were collected by Ka-6 pilots having the better penetration. I managed to get hill lift on one flight and used it until the next thermal came along but unfortunately it had stopped when I needed it again. Launching varied between two Pawnees,a Super Cub and a Husky depending upon the choice of the pilot to tow at a slow speed or in the case of the Husky on the air temperature. All tows were high tow to either 2000 or 3000 feet agl at a cost of US$30.00 or US$38.00. Some gliders carried radio but the whole operation was non-radio.

Every morning there was an hour devoted to a talk about gliding in each country and I gave one on the development of gliding in Australia and the role of homebuilding in the early days, followed by Kevin who spoke on the formation and activities of our Vintage movement. One day we were presented with a painting of Chris Wills in his Kranich in recognition of the efforts of the VGA in attending the IVSM with the "Golden Eagle"

After a visit to Washington with our US host Howie Burr, past President of the Sailplane Homebuilders Association, to see the Smithsonian museum and the Garber Restoration Facility, John and I set out for OSHKOSH with the glider in tow. Thanks to the efforts of Brian Creer, well known to older glider pilots, we arrived with letters of introduction for the various guards and officials. We were guided to a prime parking spot opposite the Antique Aircraft Headquarters - the Red Barn. This was on a road from the main gate to the flight line, so we had a constant stream of visitors for the next six days.

The Eagle was one of the four gliders present, the others being the latest Stemme, a super Blanik from the Civil Air Patrol, and a lightweight Italian 'Silent' (which we never did find). OSHKOSH seems to be getting bigger and more crowded. Many were surprised to learn that the Eagle had been both designed and built in Australia, and that it was still airworthy after 63 years!!

We were joined by Kevin and Bob who had gone to Old Rheinbeck with Howie on the way. They helped answer the many questions about the glider and our presence there. Some were very amusing such as : what height did you tow at coming over to America? OSHKOSH is a great human magnet and there were many visitors who knew us or had mutual friends making the visit most enjoyable and interesting.

We found the trip to be satisfying in that we were able to demonstrate to the International aviation community that we are serious in Australia about saving our gliding heritage. Also that from the beginning of gliding in Australia there have been homebuilt gliders of both local and overseas designs.

A pleasant occassion was the visit of Geoff Richardson's sister, Molly, to Harris Hill. She had been flown from Los Angeles to Detroit by her son who then drove her with his family to see the glider. Another visitor was Arthur Hardinge, one of the builders of the "Yellow Witch' and now living in Canada who renewed friendships with Kevin and myself.

The taking of the Golden Eagle to the USA was made possible by help and encouragement from a number of people and organisations, including BHP Shipping, Aviaquip, GFA, USA, SAGA, and VARMS.

A DATE TO REMEMBER

As usual the next year from the 6th to 13th January 2001 we will join The Vintage Gliders Australia for our Summer camp at Bacchus Marsh airfield,

Resident clubs at Bacchus Marsh are going away on Summers camps, so the vintage gliders will have the run of the place.

Accommodation is available in the club house, reasonable shared rooms and facilities at $ 8.00 per night. Motel and Hotel accommodation is available in Bacchus Marsh, 7 kms from the field. Limited Caravan and camping sites available. For those who still like to rough it , there is plenty of space to doss down in the hangars.

Aerotow ($22.50 to 2000 ft) available.
Winch Launching ($ 10 per launch) available.

With the clubs away, we can expect hangarage for up to 30 gliders. Towing will be provided with up to 3 Tugs. 2 x Super Cub, 1x Pawnee The vintage gliders are expecting a wide range of gliders intending to come, there will be plenty of two seat with Ka2, Ka4, Zephyrus, and a flock of Short wing and Longwing Kookaburras. Single seat from H-17 to first timers Slingsby Dart. Throw in some Ka6's, Olympia ,Boomerangs and others things. Should be a whole lot of fun.

As usual, a presentation dinner will be held with our vintage glider cousins., probably on the Friday night. If you are intending to assist this gathering, let me know ASAP so we can confirm our participation.

Catering. In order to ascertain the requirements for catering, please consider the following information. Commercially available meals would be approximately $ 18 per head at the airfield. We therefore plan to have barbecues available at the clubhouse each evening with a variety of self-cooked meals and salads for $ 12 per head. Lunches will be available at the field at competitive prices.

Two recent Homebuilt Sailplane Crashes

An excerpt from Sailplane Builder. September-October 200

There have been two recent crashes of homebuilt sailplane. The first was August 12, 2000 in Marion, Ohio. Mat Redsell was flying his Windrose, which was destroyed when it impacted terrain. This Windrose was not fitted with a motor. The National Transportation Safety Board (NTSB) report states that according to the pilot/builder, "While circling to the left in a thermal, a gust lifted the glider's right wing and flipped the glider inverted. The glider then quickly entered a spiral dive." Mat elected to bail out, an did so safely.

On August 26th, 17 year old David Quick was killed near Mountain Valley Airport in Tehachapi when the BG-12 he was flying experienced a structural failure. The accident continues under investigation by the NTSB. It appears that he may have deployed the flaps at high speed, and a flap failed, a rear spar failed, and a wing departed the aircraft. The departed wing and flap were found in separate locations, away from the crash scene. He apparently died immediately on impact.

From the Internet

From marske@gte.net Sat Aug 12 22:40:54 2000
Newsgroups: rec.aviation.soaring
Subject: Windrose Crash
From: Matthew Redsell <marske@gte.net>
Date:Sun13Aug200002:40:54GMT

I would like all aviators to know about my Windrose crash today. And I recommend that no one build and fly one. It was a very strong thermal day and I was enjoying the strong thermals. As I reached 3000 ft agl I hit a boomer which because of the slow speed put me in a spin. This surprised me since I had a fair amount of flaps on. On the attempt of recovery from the spin in the ensuing spiral dive I noticed the elevator not responding. This has happened once before...but I recovered from that! This got to out of hand so I bailed out.....but not without a lot of difficulty. This was the first real test of the emergency canopy release..... it worked but not as I had thought it would. The canopy stayed on until I kicked it off... possible held by the latch, side latches. The next episode was science fiction..... I free fell then pulled the chute but the glider recovered and did a long series of loops right above me and to the side within 20 -50 feet. I was really pulling those shroud lines to avoid hitting it.....and I really felt helpless! I landed before the glider which was determined to get me.....literally jumped out of the chute once on the ground and ran.....it was right above me..... it then pitched over to follow me in the direction I chose to run.....finally it went nose in not 30feet from me.

Amazingly the Yaesu hand held radio was working.... I pushed my hand in the rubble looking for it... finally finding it and broadcasting that I had survive and !I'm really lucky to be alive..... and a number of people got it on video....so I think we had better say the the windrose glider is very unsafe to fly. This makes me quite sad since I liked it quite a lot.

8/14 " from Richard" almost all sailplanes can and will spin. None recover normally into a spiral dive. Out of CG, a stuck elevator, or a panic reaction can cause this. IF the plane actually looped once abandoned, a stuck elevator might be suggested. If there is a video, I hope it is shared. All airplanes are also dangerous, but much less so if flown within a normal flight envelope. We don't know for sure what this is; it might be less with the Windrose than another ship.

The MOST I would do at this time is add a note suggesting parachutes, and an emergency canopy release, equipment that is standard on MOST height performance sailplanes in any case.
RRI

NEW SUBSCRIBERS -

We have new subscribers to welcome to the group, this time namely:
Simon Bleuler. 727 Pacific Hwy. Mt.Kuring-Gai. NSW 2080
Michael Duffy. 32 A. Eton St. North Perth.6006.
Charles David Gore. 13-15 Governor Mcquarie Dve. NSW 2170
WELCOME ABOARD fellows!

CLASSIFIEDS

WANTED - Completed or partially finished single sailplane preferably a self launcher.
WANTED - Study books and/or plans for gliders. Design Building etc.
John Thirwall.
P.O.Box 69
Northbridge 2063
Ph. 02 9958 7311
Fax 02 9958 0350

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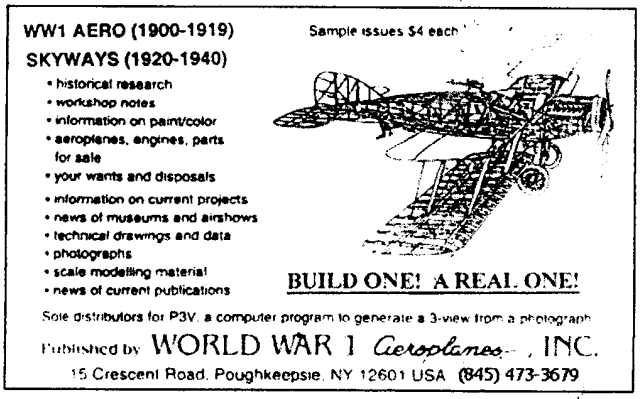

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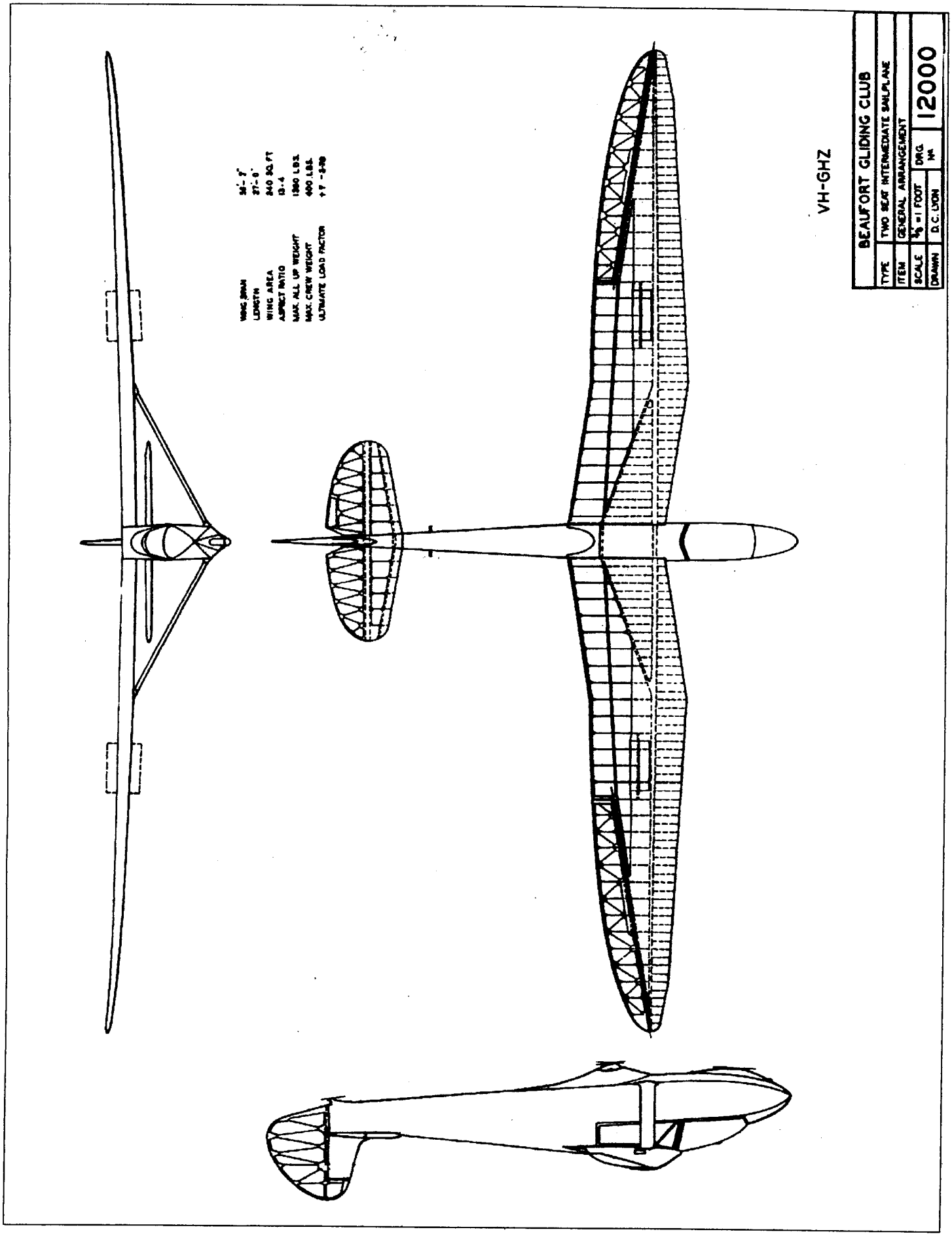
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